

CLAIMS:

1. Denatured carob flour, characterized in that it comprises:
2-15% Sugars, 0.2-1.5% Cyclitols (pinitol), 2-10% Lignins, 10-30% Celluloses, 3-
5 20% Hemicelluloses, 1-6% Pectins, 25-55% Condensed tannins, 3-9% Protein and
less than 8% Water.
2. Denatured carob flour according to claim 1, wherein the Sugar content is 3-10%.
- 10 3. Denatured carob flour according to claim 1 or 2, wherein the Cyclitols content is
0.3-1%.
4. Denatured carob flour according to one of claims 1-3, wherein the Lignins content is
2-7%.
- 15 5. Denatured carob flour according to one of claims 1-4, wherein the Celluloses
content is 15-28%.
6. Denatured carob flour according to one of claims 1-5, wherein the Hemicelluloses
20 content is 3-9%.
7. Denatured carob flour according to one of claims 1-6, wherein the Pectins content is
2-5%.
- 25 8. Denatured carob flour according to one of claims 1-7, wherein the Condensed
Tannins content is 30-48%.
9. Denatured carob flour according to one of claims 1-8, wherein the Protein content is
4-8%.
- 30 10. Denatured carob flour according to one of claims 1-9, wherein the Water content is
less than 6%.
11. Process to obtain a flour according to claim 1, comprising the following steps:
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 - a. Cleaning the whole fruit;
 - b. Crushing the carob fruits;
 - c. Separation of carob seeds and kibbled carob pulp;

- d. **Toasting** between 130-200°C
 - e. **Extraction process;**
 - f. **Separation:**
 - g. **Milling:** 90% of particles below 250 µm
 - 5 h. **Separation:**
 - i. **Drying:** below 8%,
 - j. **Classification (sieving):**
12. Process according to claim 11, wherein in step b. the carob pod is shredded into
10 pieces smaller than 3 cm.
13. Process according to claim 11 or 12, wherein the temperature is between 140-150°C
14. Process according to one of claims 11-13, wherein the time period for the toasting
15 process is 5-60 minutes
15. Process according to claim 14, wherein the time period is 10-20 minutes.
16. Process according to one of claims 11-15, wherein in step e. the extraction is
20 performed in the range of 5-80°C.
17. Process according to one of claims 11-16, wherein in step e. the ratio of pulp to
water is 1:20 (wt./wt.).
- 25 18. Process according to one of claims 11-17, wherein in step e. the extraction is
performed for 5 minutes to 24 hours.
19. Process according to one of claims 11-18, wherein in step g. 90% of particles are
below 150 µm.
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20. Process according to one of claims 11-19, wherein between steps g. and h. steps e.
and f. are at least once repeated.
21. Process according to one of claims 11-20, wherein in step i. the drying is performed
35 at a temperature which does not exceed 140 °C.8%

22. Process according to one of claims 11-21, wherein the process is carried out continuously.
23. The use of the flour according to claim 1 in foods, dietary supplements, animal feed,
5 pet food, human and animal medicine.